

1993. ABSTRACT. In Wildlife Ecology: Issues and Management in the Pacific Northwest, Annual Meeting of the Wildlife Society, British Columbia/Washington (March 10-12, 1993, Blaine, Washington)

REPELLENCY OF PREDATOR ODORS TO HERBIVORES REFLECT THE CARNIVORE'S DIET

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Herbivores may avoid predator odors because sulfurous odors are produced during the digestion of red meat. We conducted a study to determine whether herbivorous rodents differentiate between urine collected from a predator fed meat and urine collected from the same predator on a meat-free diet. The "meat-free" urine (CU) was collected from male coyotes (*Canis latrans*) after they had been fed cantaloupe for 2 weeks. Subsequently, we collected the "meat" urine (MU) from these same animals post a 2-week period during which they were fed their normal ration of ground mink (*Mustela vison*). In 2-choice tests, mountain beavers (*Aplodontia rufa*), guinea pigs (*Cavia porcellus*), house mice (*Mus musculus*), and deer mice (*Peromyscus maniculatus*) ingested more ($P < 0.05$) food from bowls scented with CU than they did from bowls scented with MU. A second experiment was then conducted to determine whether the response difference was because of CU dilution. Urines used to scent food bowls in this experiment were lyophilized and then rehydrated to a known concentration. Naive deer mice ingested more ($P < 0.05$) food from bowls scented with CU in single-choice tests than they did from bowls scented with MU. The other rodent species used in the first experiment were not tested in this experiment. Finally, a comparison of chromatograms made of CU and MU indicates that several sulfur components found in MU were less abundant in CU. Apart from their basic significance, these results suggest potential areas in which repellents may be developed to restrict forage damage by herbivores.